

# CITY OF WICHITA, KANSAS

## SANITARY SEWER EXTENSION

TO SERVE LOT 1, BLOCK 1, KUMC ADDITION TO WICHITA, KANSAS  
 PRIVATE PROJECT NO.: 537PPS (607861)

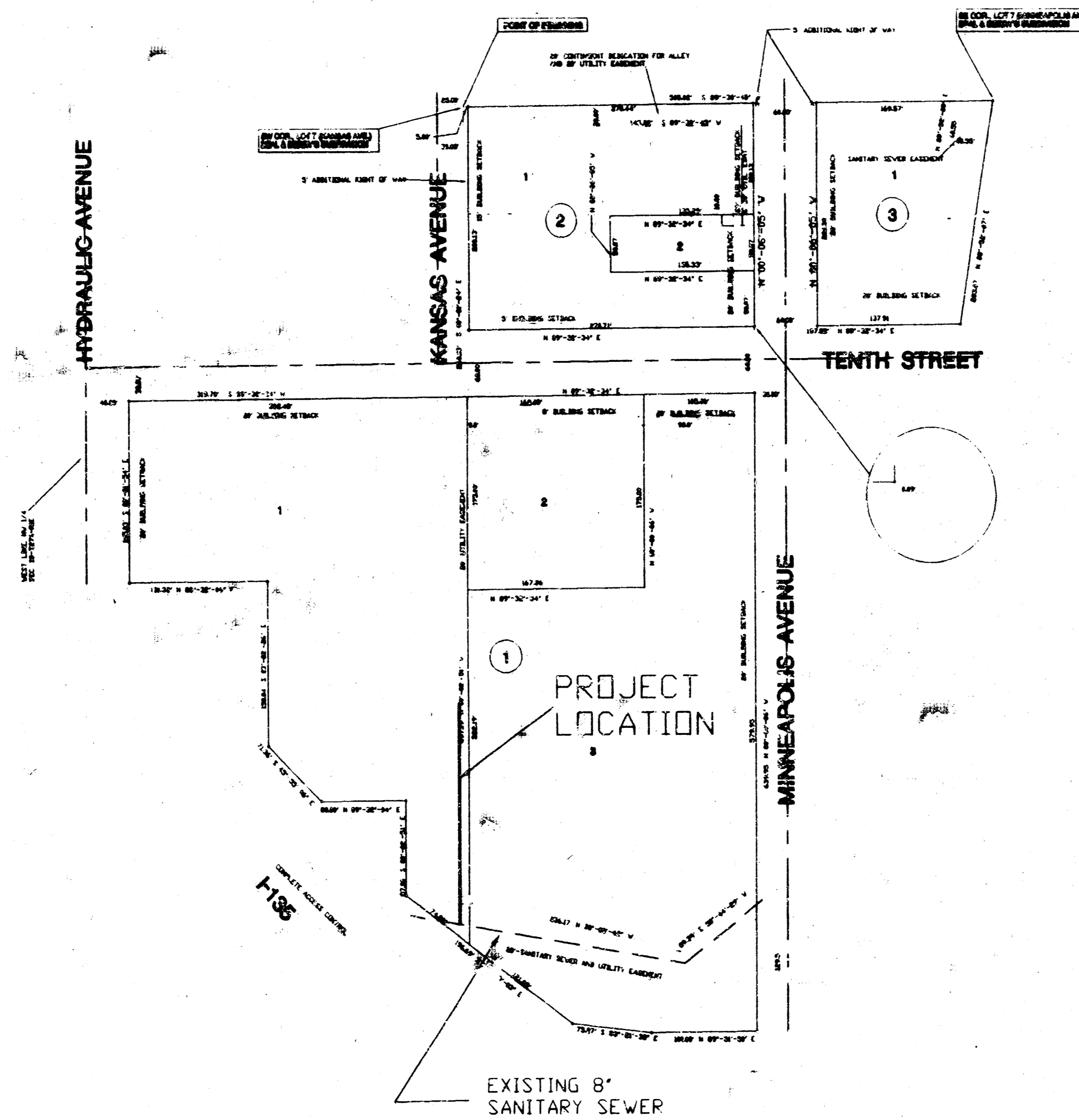
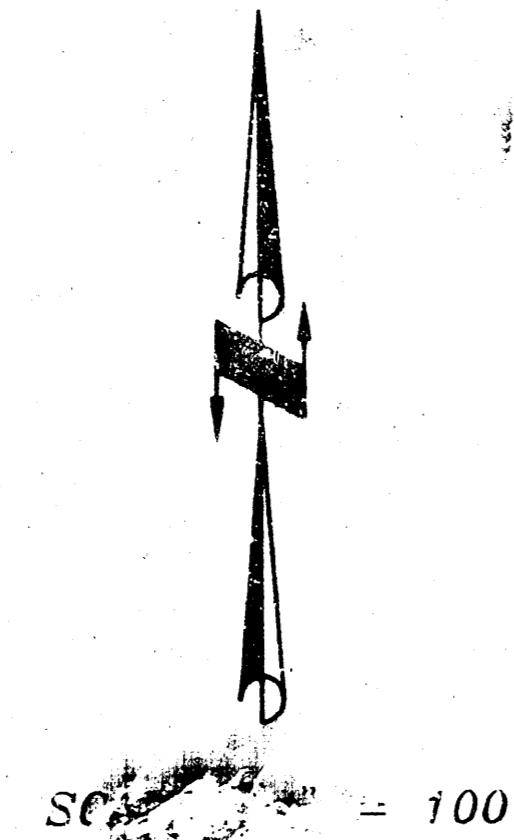
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**GENERAL NOTES:**

- CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF TWENTY-FOUR (24) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:  

KANSAS GAS & ELECTRIC	316-261-6421
K.P.L. GAS SERVICE	316-942-8300
SOUTHWESTERN BELL TELEPHONE CO.	316-383-9454
WICHITA WATER DEPARTMENT	316-269-4555
MULTIMEDIA CABLEVISION	316-262-4270
WICHITA SEWER MAINTENANCE	316-268-4210
KANSAS ONE-CALL	1-687-2470
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH CITY OF WICHITA, KANSAS CITY OF WICHITA STANDARD SPECIFICATIONS.
- EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE UNSIGHTLY APPEARANCE WILL NOT BE APPROVED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR OR LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH STATE LAW.
- GRASS AREAS DISTURBED BY CONSTRUCTION OR STORAGE OF MATERIALS SHALL BE REPLANTED EITHER BY SEEDING OR SODDING WITH THE SAME TYPE OF GRASS AS WAS EXISTING PRIOR TO SEWER LINE CONSTRUCTION. SEE SPECIAL PROVISIONS IN THE STANDARD SPECIFICATION NO. 14533 FOR SEEDING AND SODDING OF COOL SEASON AND WARM SEASON GRASSES.
- CONSTRUCTION STAKING, INSPECTION AND TESTING SHALL BE PROVIDED BY CONTRACTOR AT NO ADDITIONAL EXPENSE TO OWNER. THESE SERVICES SHALL BE PROVIDED IN ACCORDANCE WITH CITY OF WICHITA REQUIREMENTS.



LOCATION MAP



**NOTE TO CONTRACTOR:**  
 INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM UNDER CONTRACT WITH THE OWNER/DEVELOPER. SAID INSPECTION TO BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD ENGINEERING PRACTICES AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER.

APPROVED AS NOTED  
 BY CITY ENGINEER OF WICHITA:  
 SANITARY SEWER VRH 3/17/95  
 STORM SEWER \_\_\_\_\_  
 DRIVEWAY APPROACH \_\_\_\_\_  
 WATER MAINS \_\_\_\_\_  
 PAVING \_\_\_\_\_

Booked 1/5/96  
 CJKB  
 From As Bails

AS BUILT PLANS  
 S.E. ANDERSON, P.E.  
 DECEMBER, 1995

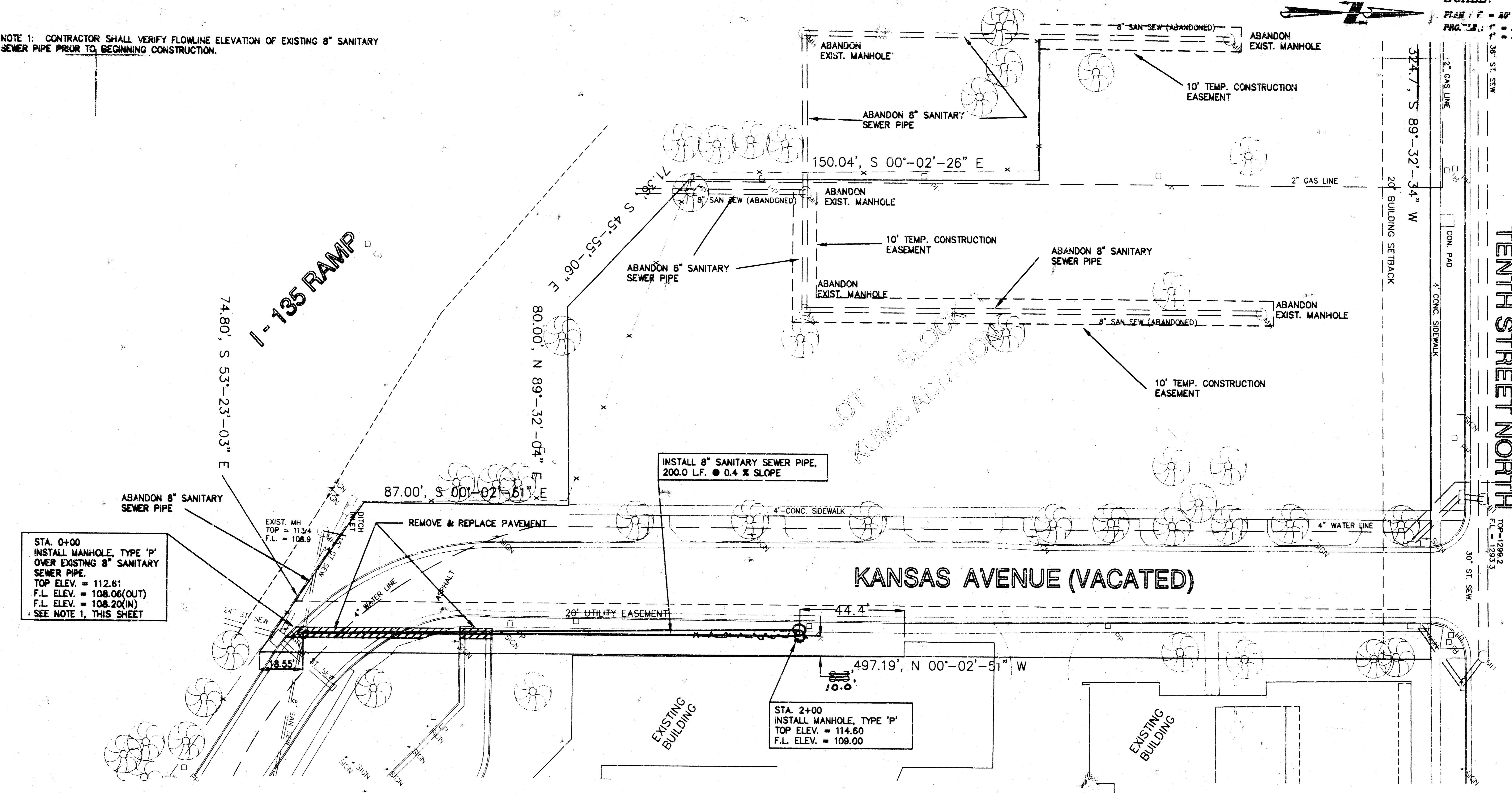
December 13, 1995

MICHAEL E. LINDEBAK, P.E., CITY ENGINEER

TITLE SHEET		
SCALE	APPROVED:	DRAWN BY: F.A.
DATE:		CHECKED: B.K.
PROJECT NO.:		SHEET NO. 1 OF 3
MUNICIPAL ENGINEERS 264-LAURA, SUITE 201 WICHITA, KANSAS 67211 316-262-3842		

NOTE 1: CONTRACTOR SHALL VERIFY FLOWLINE ELEVATION OF EXISTING 8" SANITARY SEWER PIPE PRIOR TO BEGINNING CONSTRUCTION.

SCALE:  
 PLAN: P = 40'  
 P.L. = 20' (H)  
 V.L. = 6' (V)

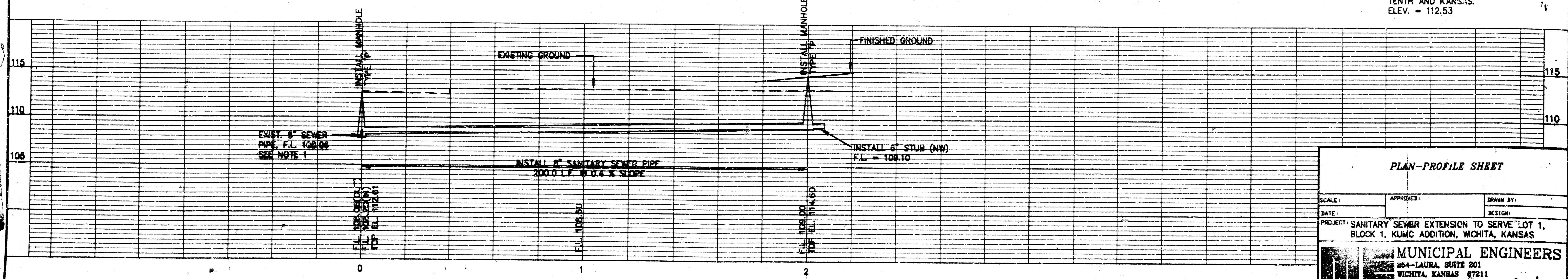


STA. 0+00  
 INSTALL MANHOLE, TYPE 'P'  
 OVER EXISTING 8" SANITARY  
 SEWER PIPE.  
 TOP ELEV. = 112.61  
 F.L. ELEV. = 108.06(OUT)  
 F.L. ELEV. = 108.20(IN)  
 SEE NOTE 1, THIS SHEET

INSTALL 8" SANITARY SEWER PIPE,  
 200.0 L.F. @ 0.4% SLOPE

STA. 2+40  
 INSTALL MANHOLE, TYPE 'P'  
 TOP ELEV. = 114.60  
 F.L. ELEV. = 109.00

BENCH MARK: CHISELED SQUARE  
 ON TOP OF NORTHEAST CURB @  
 TENTH AND KANSAS.  
 ELEV. = 112.53



PLAN-PROFILE SHEET

SCALE:	APPROVED:	DRAWN BY:
DATE:	DESIGN:	
PROJECT: SANITARY SEWER EXTENSION TO SERVE LOT 1, BLOCK 1, KUMC ADDITION, WICHITA, KANSAS		
<b>MUNICIPAL ENGINEERS</b>		
204-LAURA, SUITE 201 WICHITA, KANSAS 67211 316-262-3842		
		SHEET: 2 OF 3

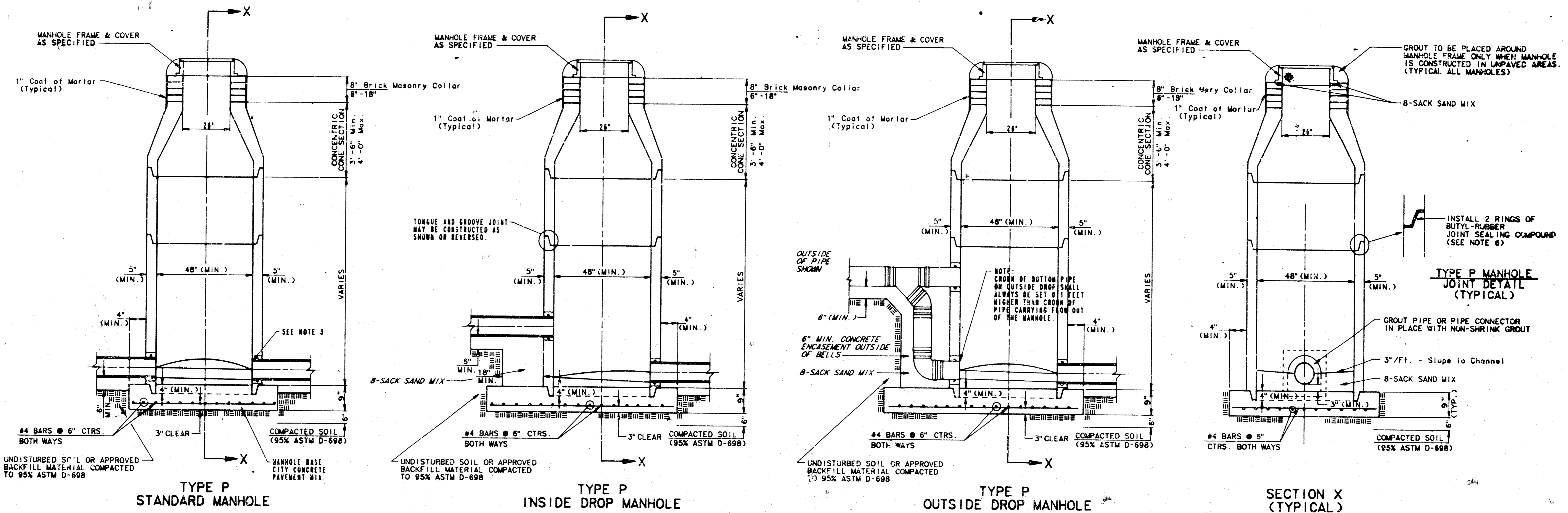
# SEWER APPURTENANCES DETAILS

## ADOPTED AS STANDARD DESIGN

### BY

## CITY OF WICHITA

SHEET 3 OF 3



**TYPE P STANDARD MANHOLE**

**TYPE P INSIDE DROP MANHOLE**

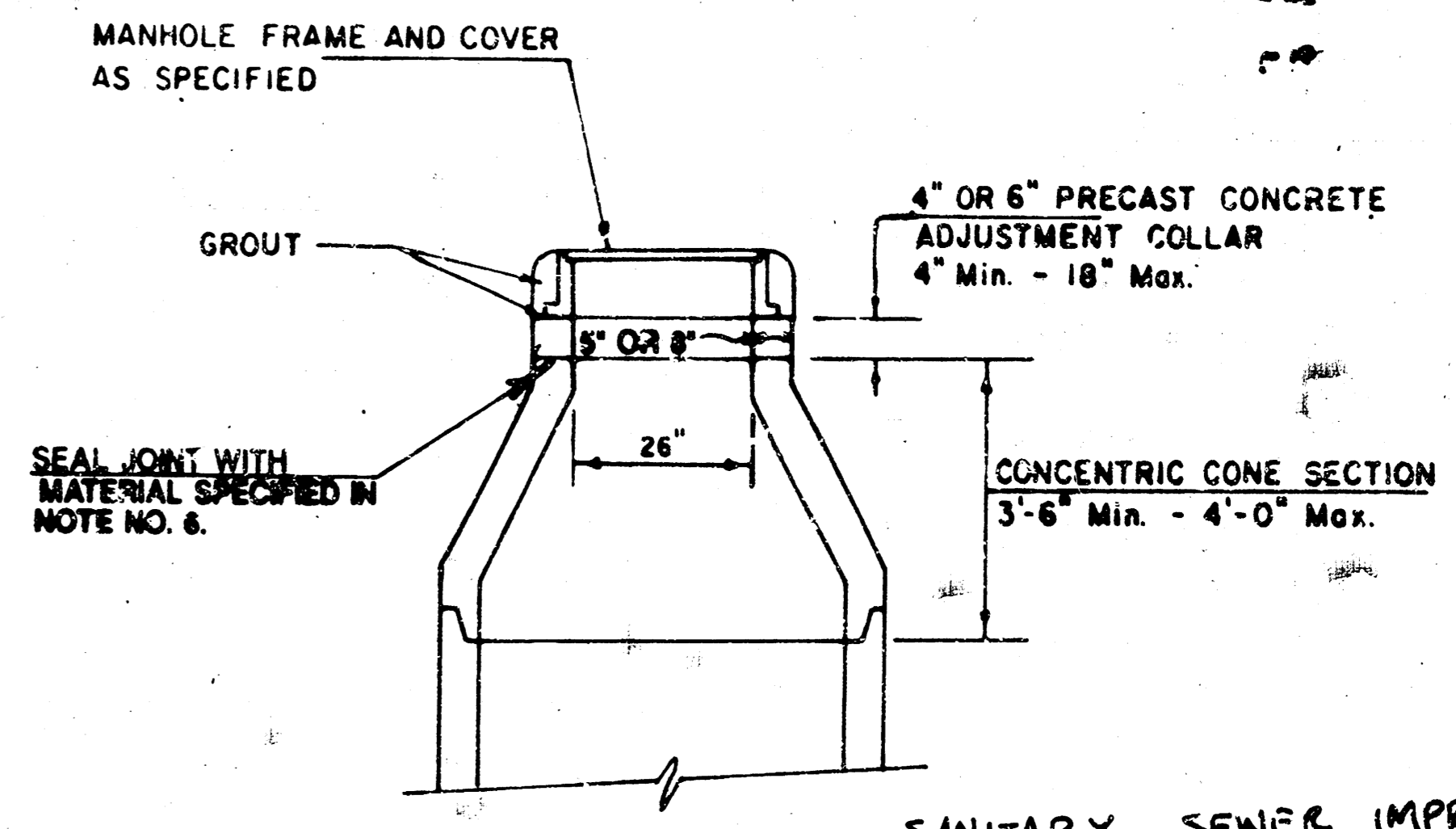
**TYPE P OUTSIDE DROP MANHOLE**

**SECTION X (TYPICAL)**

- GENERAL NOTES
- PRECAST MANHOLE NOTES
1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
  2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
  3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A U.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASUREMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
  4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TREMEC SERIES 88 HI-BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.).
  5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINUS COATING.
  6. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
  7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
  8. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
  9. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
  10. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING AD MIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4". MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5". COMPLETED MANHOLE SHALL BE WITHOUT TEARS AND WATER TIGHT.

11. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
12. OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A U.S. COMPOSITE PIPE THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK.
13. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF-CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM BELLS OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO HEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

15. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
16. THE VERTICAL FREE FALL DROP INSIDE MANHOLES SHALL NOT EXCEED 2'. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
17. STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
18. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" BALLS AND A VERTICAL HEIGHT OF 8" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR.



**ALTERNATE CONSTRUCTION IN UNPAVED AREAS**

SANITARY SEWER IMPROVEMENTS  
TO SERVE  
LOT 1, BLOCK 1, KUINC ADD.  
PRIVATE PROJECT NO.: 537PPS(607861)

REVISED NOV. 1993  
NOTE NO. 18 REVISED JAN. 1991  
Revised 3-21-89  
Revised 8-10-88  
Revised: June 12, 1988

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